

**A METHOD AND APPARATUS FOR
GENERATING LINKING MEANS AND UPDATING TEXT FILES
ON A WIDE AREA NETWORK**

Related Application

This application is related to U.S. Patent Application, entitled Method and Apparatus For Automatically Generating Linking and Updating Text Files On A Wide Area Network, Serial No. 60/258,371 filed December 27, 2000, and is fully incorporated herein by reference.

Field of the Invention

The present invention is directed to a system, method and apparatus for automatically generating linking means and updating text files. More specifically, embodiments of the invention are directed to a method and apparatus for generating a link means within a document or file that allows users to link with selected data, wherein the documents and files are automatically updated with the linking means.

Background of the Invention

Communication via wide area networks ("WANS"), such as, for example, through the Internet, has become an increasingly common manner of communication world wide. Additionally, because of the millions of persons using electronic mail ("E-mail") or the World Wide Web ("WWW"), wide area computer networks, have become a very useful tool for inexpensively marketing and advertising goods and services. As such, it is highly desirable for many persons and companies to make messages, such as advertisements, available to persons using WANS. As a result of the efforts of such persons and companies, users of Internet-based electronic mail or the WWW are inundated with a huge and steadily increasing amount of information.

Some of the information provided by persons and companies attempting to attract the attention of Internet users employ the transmissions of mass unsolicited e-mail or "spam" sent to large numbers of persons using the Internet. This practice has become increasingly problematic

as it consumes limited Internet bandwidth and server resources of Internet Service Providers ("ISP"). It is also often undesired by the recipient. In fact, concerns over the use of unsolicited E-mail as a means of advertising has resulted in the passage of many laws restricting the transmission of mass unsolicited E-mail. Persons and companies desiring the attention of persons using the Internet must, therefore, confront the increasingly difficult task of effectively, unobtrusively and legally drawing Internet user's attention to their message, such as an advertisement, amid the flood of Internet information.

One popular means of transmitting information on the WWW is via web sites, comprised of one or more web pages using hypertext markup language ("HTML"). In most instances, in addition to the textual, graphic, and/or audio data presented on each page, additional data is embedded into each page via hyperlinks. A hyperlink is a means by which a user can be quickly directed to another web site, web page or other file containing information by the downloading of such information in response to the user's execution of the command embedded in the hyperlink.

A hyperlink can be presented to a user as a word, a graphic, sound, audiovisual or similar matter displayed via a web browser such as Netscape, Internet Explorer or similar graphic user interface. Typically, the hyperlinks found on a web page are created at the time that the web page is created such that the web page is presented to the user including the hyperlinks. If additional hyperlinks are later desired, the person managing the web page must return to the web page to insert the later desired link. If multiple web pages require the newly desired link, a hyperlink must be created on each page for the link to work for that page. This manner of creating and updating hyperlinks on individual web pages is time consuming and further, can be ineffective as the person updating the pages may not update all the relevant pages or sites. A need in the industry exists for automatically generating a link means and updating the presentation of web sites, or web pages, to users with such updated link means. Additionally, a need in the industry exists for persons and companies to automatically present to persons using wide area computer networks, such as the Internet, a linking means to messages such as advertisements.

Summary of the Disclosure

Embodiments of the instant invention are directed to methods for automatically generating a link means in files presented to users of wide area computer networks, and for automatically updating text and other types of files on a wide area network with linking means to data desired to be presented to such users. In embodiments of the instant invention, selected key words are stored in a memory location or key word file. In preferred embodiments, each key word is associated with information, such as a web page, to which the advertiser, for example, desires the user to be able to link.

The key word file is transmitted to the user, either automatically or upon request. In some embodiments the key word file is transmitted to the wide area computer network user's computer without any notice to the user. A key word comparison and word to hypertext transformation program ("HTP") enabling the user's computer to perform certain functions is also transmitted to the user's computer with the key word file.

When textual data is downloaded from a network or memory storage device to a user's computer, a comparison is made between the words in the downloaded text and the key words stored in the key word file or key word data memory location by the HTP to determine the presence of key words in the document. If a word is detected in the textual data and the key word file or files, the key word displayed to the user is converted into a linking means. In one embodiment, the key word is converted into a hyperlink and the document is updated to reflect the newly-generated hyperlinks. When the hyperlink in a document is selected, the user's browser, or other similar wide area network interface, displays the corresponding web page or downloads a corresponding file.

A feature of preferred embodiments of the invention is the immediate conversion of key words to hyperlinks in a document. An advantage of this feature is that it allows linkage of the user to the information coupled to the key word.

A further feature of preferred embodiments of the invention is the ability for advertisers to market their goods and services in real time without interrupting the consumer. An advantage to this feature is that consumers voluntarily access the information and thus, are more likely to purchase or utilize the advertised information.

The above and other features and advantages of embodiments of this invention will be apparent from the following more detailed description when taken in conjunction with the accompanying drawings of illustrative embodiments.

Brief Description of the Drawings

The detailed description of embodiments of the invention will be made with reference to the accompanying drawings, wherein like numerals designate corresponding parts in the figures.

Figure 1 is a network system environment in accordance with a preferred embodiment of the instant invention.

Detailed Description of Preferred Embodiments

Embodiments of the instant invention are directed to a system, method and apparatus for generating linking means and updating files on a network. Embodiments of the instant invention employ a network of computers and programs for retrieving and displaying data and files to users on a wide area network, such as, the WWW or the Internet.

Hardware Environment:

Preferred embodiments of the instant invention operate with a network comprising a plurality of networked computers, such as, for example, at least one user computer and at least one provider computer which are coupled together in a communications network, such as, for example, the Internet or WWW. Figure 1 depicts a simplified representation of an example network system 10 that is operated in accordance with preferred embodiments of the invention.

The network system 10 includes at least two client or user computers 12 and at least one provider computer 14 coupled for communication therebetween, generally represented at 16. In the illustrated embodiment, two client or user computers 12 and one provider computer 14 is shown in the network system. It will be understood that further embodiments may employ any suitable number of user and provider computers. The network system 10 may comprise a closed or intranet configuration, an open or public-access network configuration or combinations of such configurations, as is well known in the art. For example, the user and provider computers

$\frac{1}{2} \left(\frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}} \right) = \frac{1}{2} \cdot \sqrt{2} = \frac{\sqrt{2}}{2}$

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communication and browser software to allow a user to request, receive and display information (or content) from or through a referral provider computer 14 on the network system 10. In preferred embodiments, the user computer 12 employs a program, such as a browser, for displaying content received from a referral provider computer 14.

providing content (data representing text, hypertext, photographs, graphics video and/or audio) for communication over the network. In preferred embodiments, the referral provider computer 14 comprises a programmable processor capable of operating in accordance with programs stored on one or more computer readable media 24 (for example, but not limited to, floppy disks, hard

disks, random access memory RAM, CD-ROM), to provide content for communication to a user computer 12. The referral provider computer may comprise, for example, but is not limited to, a personal computer, a mainframe computer, network computer, portable computer, personal data assistant (such as, a 3Com Palm Pilot), or the like. The referral provider computer 14 may include one or more internal data storage devices (not shown) for storing content for communication to a user computer 12. Alternatively, or in addition, the provider computer 14 may be coupled to an external data storage device, computer or other means (not shown) from which the referral provider computer 14 may obtain content for communication to a user computer 12. In one embodiment, the external device may comprise a further network device coupled in the network 16.

General Description of Preferred Embodiments:

Embodiments of the instant invention are directed to methods for automatically generating a link means in E-mail, web pages and other documents and files presented to users of wide area computer networks, and for automatically updating text and other types of files on a wide area network with linking means to data desired to be presented to such users. In embodiments of the instant invention, selected key words are stored in a memory location or key word file. In some embodiments, the key words are determined by advertisers that pay to have their key word included in the key word list or file. In preferred embodiments, each key word is associated with information, such as a web page, to which the advertiser, for example, desires the user to be able to link.

In some embodiments of the instant invention, the key word file is automatically transmitted to memory storage locations on the computers of users of the Internet upon accessing the servers of their ISP at the time the users log into the Internet or when they access the servers of selected web sites. In some embodiments, the key word file may reside only on remote computers and only a small locator data script indicating a file location accessible on a wide area computer network, such as the Internet, is downloaded to the user's computer via their ISP's server or one or more servers corresponding to web sites at which the key word file may be obtained. In other embodiments, multiple key word files are transmitted to the user's computer.

In some embodiments, the user must elect, via a click-through mechanism or other means to download the key word file to the user's computer. In some embodiments the key word file is transmitted to the wide area computer network user's computer without any notice to the user.

In some embodiments, a key word comparison and word to hypertext transformation program ("HTP") enabling the user's computer to perform certain functions of the instant invention is also transmitted to the user's computer with the key word file. Such transmission may be accomplished by any of the foregoing means of transmission of the key word file. In some preferred embodiments, a locator data script indicating a file location accessible on a wide area computer network, such as the Internet, is downloaded to the user's computer via their ISP's server or one or more servers corresponding to web sites at which access to the HTP may be obtained by the user computer as required to perform the instant invention.

In some embodiments of the instant invention, when textual data is downloaded from a network or memory storage device to a user's computer, a comparison is made between the words in the downloaded text and the key words stored in the key word file or key word data memory location by the HTP for the purpose of detecting the presence of key words in the document. In some embodiments, multiple key word files are used, and thus, the comparison between the textual data is made with multiple key word files. The comparison between the textual data and the key word file is conducted via the HTP. While, in some embodiments, the HTP is written in Java™ or Active X™, any suitable software language may be employed.

If a word is detected in the textual data and the key word file or files, the key word displayed to the user is converted into a linking means. In one embodiment, the key word is converted into a hyperlink. Thus, after the user downloads the document, hyperlinks are generated in accordance with the key word files and the document is updated to reflect the newly-generated hyperlinks.

When such a hyperlink in a document is selected, the user's browser, or other similar wide area network interface, displays the corresponding web page or downloads a corresponding file.

In some embodiments, some or all the key words have been selected as part of an advertising process wherein a company or person has paid a fee or other consideration to have

[illegible]

...the ... of ...

Express Mail Label No: EK178155113